

[METHOD AND ARRANGEMENT FOR CONTROLLING STRESSES BASED ON ONE-DIMENSIONAL MODELING IN SPRAYFORM TECHNIQUES]

Abstract of Disclosure

Method and apparatus for controlling stresses in a spray form process makes use of one dimensional modeling in which characteristics of a geometrical point are quantified by iterative detection, such as taking a surface temperature reading using a pyrometer. This temperature information is used in a one dimensional simulation to predict characteristics for a column from the point down through a spray-formed article to an interface with a substrate. The modeling technique can used with a plurality of geometrical points to model the whole article, and the one dimensional simulation can be integrated with robotic spray-forming controls to minimize residual stress in the spray-formed article.

Figures

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